



THOMAS G. NEWMAN,
EDITOR.

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Still Sick.

The editor is still confined to the house, and most of the time to his bed. The "grippe" has disappeared, but as is usual in the majority of the cases with this malady, it has left him a legacy—In the present instance it is a congested liver and stomach. At the present writing, he is gaining steadily, and if no further complications arise, he will be at his post of duty before another number of the BEE JOURNAL goes to press, and his handiwork will be seen, as of old, upon this page.

The Business Department has received no interruption during the prevalence of this Russian epidemic, as the Business Manager lost the combination, and failed to receive his share. All matters of business have received, and will continue to receive, the same prompt attention that has characterized its affairs in the past.

ALFRED H. NEWMAN,
Business Manager.

The Best Literary Journal.

This is what Mr. Geo. E. Hilton says of our ILLUSTRATED HOME JOURNAL, when sending his subscription for another year:

You are publishing the best literary journal that comes to my desk, and I am just deluged with reading-matter; but if it all had to stop but one, the HOME JOURNAL would be the one that would be continued. Would to God that we had more of such healthful reading-matter, and less of the "dime novel" sort. If you get what you deserve, it will be "success."

GEO. E. HILTON.

Thanks, Friend Hilton. That is a pretty strong endorsement, but we mean to merit just such commendations, by supplying reading-matter that is pure and inviting—such as may be safely put into the hands of every member of the family. The ILLUSTRATED HOME JOURNAL is clubbed with the AMERICAN BEE JOURNAL for only \$1.50.

QUERIES REPLIES.

Spreading the Frames in Wintering Bees.

Written for the American Bee Journal

Query 681.—1. In wintering bees out-doors, would it be any advantage to the bees, to remove one frame, and spread the remaining nine further apart, to allow more bees between each two combs? 2. I have several colonies of bees in 10-frame Langstroth hives, with only nine combs in each. The nine combs so widened out that there is not room for the tenth frame. Will it make any difference with the bees, or the honey crop? If so, what?—Mo.

Where combs are spread $1\frac{1}{2}$ inches from center to center, I believe that spreading the comb is worse than useless.—J. M. HAMBAUGH.

I have tried your plan, but I can see no difference, and now I leave all the frames in the hive.—H. D. CUTTING.

They will certainly winter better with only 9 frames. All our colonies are in hives with frames $1\frac{1}{2}$ inches apart.—DADANT & SON.

1. No. It would be a disadvantage. 2. There is less room for brood, and in the brood-nest combs are liable to be built between the frames.—M. MAHIN.

If the frames are well filled with honey, it might be an advantage to slightly spread them. No spreading should be done during the working season.—J. P. H. BROWN.

While it is not necessary to spread the combs as you suggest, it does no harm, and may be a slight advantage. I usually spread the frames a little.—A. J. COOK.

1. Some think so; I do not practice it. 2. There will be no difference with the bees, but 8 frames will give you better results in honey, if the hive is contracted to a suitable width for them.—G. M. DOOLITTLE.

1. Yes. 2. Yes. It will not be as good in summer as a 9-frame hive. When the frames are so far apart, the bees frequently build pieces of comb between them, and there is not so much breeding-room, and room for the bees to loaf and go into the super.—A. B. MASON.

1. I think not. Nature indicates that the combs should be from $1\frac{1}{2}$ to $1\frac{3}{4}$ inches apart from center to center; and to spread them to an unnatural distance apart, must necessarily be an experiment. 2. I know by experience that bees will winter all right on 9 frames, divided in a 10-frame hive. But this is a rather light "spread."—G. W. DEMAREE.

1. Some say so. 2. Yes. Within proper limits, the closer the combs are together, the more brood the cluster will cover in the spring, and consequently the more bees in June; and also the less room there will be for bees to lounge in the brood-chamber, and the more will be crowded into the sections, and consequently the more surplus there will be.—R. L. TAYLOR.

1. Mr. Langstroth thinks that it is. I have never thought the advantage enough to pay for the trouble of changing twice a year. 2. If combs are spread too much in the spring, bees cannot cover so much brood. I think that combs can be kept a little straighter if tolerably well crowded.—C. C. MILLER.

1. I think that it would, but it is a good deal of work, if one has many hives. 2. I have used 10-frame Langstroth hives for many years, with only 9 frames, and I never could see any difference in the yield of honey, between them and the 10-frame hives.—C. H. DIBBEN.

1. I hardly think that it will pay in Missouri. In colder climates it might be an advantage. 2. It will make no difference with the bees, but I think that it will with the honey crop. There is too much room in the brood-chamber for storing honey that ought to go above. In the spring, shave off the comb until the other frame will go in. Crowd them so closely together that the frames will not be more than $1\frac{1}{2}$ inches from center to center.—EUGENE SECOR.

1. More space between frames in winter than in summer, is desirable; but if 50 colonies or more are to be opened, and the combs spread, it will not pay to do it. Narrow spaces, say $1\frac{1}{2}$ inches, in summer, tend to straight, even brood-combs, lessen the storage room in the brood-chamber, and put more honey in the supers.—J. M. SHUCK.

To take the frame from the center of the hive, and leave the space all in one place, not disturbing the other frames, would, I think, be good practice; but, better still, to place a "Hill's device" above the frames. In working for comb honey, I have always considered 8 frames in the brood-chamber a plenty—sometimes, too many.—Mrs. L. HARRISON.

1. I use the 10-frame Langstroth hive for wintering, and remove one frame and spread the others. I deem this to be about right. 2. I prefer a Langstroth hive $14\frac{1}{4}$ inches wide, carrying 10 frames. In summer, I use a $\frac{1}{2}$ -inch dummy also, spacing close. In winter I remove one frame and the dummy, spacing 9 frames evenly. This works better with me than any other plan that I have tried. Space will not allow theoretical reasons, so I state the facts only.—J. E. POND.

1. Some have so claimed, but it is my humble opinion that there is no foundation for the claim. 2. It will make a difference with the honey crop, as it is impossible to rear as many workers where the combs are placed too far apart, as where they are spaced the proper distance apart, or about $1\frac{1}{2}$ inches from center to center of the combs.—G. L. TINKER.

1. Perhaps it might, but I do not do it, and very few bee-keepers do do it, and yet the theory is 15 years old, and has been tried many, many times. Space between the combs does not cause or prevent bee-diarhea. 2. Your bees are in just as good condition to winter, as if they had 10 frames; but the combs are too far apart for the best results in summer. Next spring, shave off the projecting cells (which would be honey-cells), shove up the frames and put in another frame, if you want the very best results.—JAMES HEDDON.

The spreading of the brood-frames for winter is an old theory, but one that will hardly pay for the trouble. The advantage (if there is any) is very slight, while the disadvantages are many.—THE EDITOR.

How to Bleach Common Yellow Beeswax.

Written for the American Bee Journal

Query 682.—What is the best and quickest way to bleach common yellow beeswax?—Tex.

I do not know.—M. MAHIN.

I do not know.—J. E. POND.

I do not know.—J. M. HAMBAUGH.

Ask the wax-bleachers.—R. L. TAYLOR.

I respectfully submit this to Messrs. Dadant & Son.—EUGENE SECOR.

What do you want to bleach it for? If you want only a little, melt up some white comb.—C. C. MILLER.

The color can be improved by running it through the sun wax-extractor a few times.—C. H. DIBBEN.

Put it in the sun in thin strips, when the sun is not hot enough to melt it. Some yellow wax never bleaches.—DADANT & SON.

Why do you ask? The yellow is conceded by all good judges to be the best. I leave the answer to Messrs. Dadant & Son.—A. J. COOK.

Sheet it as thin as possible, and bleach it in the sun. Bleaching hardens it, and makes it unfit for use in the apiary.—J. M. SHUCK.

Use very thin sheets, and expose them to a strong light. You must use care, or the wax will melt.—H. D. CUTTING.

A good plan is to sheet it, and then expose the sheets to a strong light. Melting them, frequently hastens the process.—J. P. H. BROWN.

Why bleach it? I prefer to have it yellow. You can bleach it by a strong light, or in the sun, the wax being in thin sheets.—G. M. DOOLITTLE.

Make it into thin sheets, and bleach it with sun and dew, just as muslin is bleached. A lady at Rahway, N. J., accumulated quite a little fortune at bleaching wax, a few years since.—MRS. L. HARRISON.

I believe that there is some chemical process for bleaching, but I do not know what it is. If made into very thin sheets, and kept moist and in the hot sun for a few weeks, it will become quite white.—A. B. MASON.

To place it in the sunlight, I suppose. I know that you do not want bleached wax in connection with bee-keeping. Perhaps you want it for some outside purpose.—JAMES HEDDON.

I have given very little attention to the art of bleaching beeswax. My mother, many years ago, bleached beeswax by making it in thin cakes, and exposing them to the sun and dews. That was so long ago that it makes my head swim to "ketch on."—G. W. DEMAREE.

The method of bleaching wax is thus described by Pereira: "This is effected by melting yellow wax (either in a copper vessel, or in a large vat or tub, by means of steam), running it off, while in a melted state, into a trough, called a *cradle*, perforated at the bottom with holes, and placed over a large water-tank, and one end of which is a revolving cylinder, almost wholly immersed in water. By this means, the wax is solidified, converted into a kind of ribbon, and conveyed on the surface of the water to the other end of the tank. These ribbons of wax are here lifted out, and conveyed in baskets to bleaching-grounds, where they are exposed to the air, sunshine and moisture, for one or two weeks (according to the state of the weather); being turned every day, and watered from time to time. The wax is then re-melted, re-ribboned, and re-bleached; it is subsequently refined by melting in water acidulated with sulphur acid.—G. L. TINKER.

Our Premium-List Supplement describes many articles of great merit, and that are useful in every family. We have carefully selected them to offer as premiums for getting up clubs for our JOURNALS. We do this to induce our friends to devote a few hours of labor for us. Our JOURNALS are first-class in their lines, and are needed everywhere. We do not want any one's labor without remuneration, and the articles offered will pay for the labor of getting up clubs, and thus the arrangement will prove to be for our mutual advantage.

CORRESPONDENCE.

SECOND PRIZE.

Extracted Honey — Production, Crystallization and Use.

Written for the American Bee Journal
BY G. P. HACHENBERG, M. D.

Honey properly extracted, is honey in its pure and perfect condition. When we speak of "extracted honey," we do not mean the article, simply as it comes out of the extractor, with its natural impurities of particles of wax, bee-bread, etc., but after it has passed through the necessary manipulations to make it an inviting article for the market.

The process of extracting is simple, and generally well understood. The solid comb, before it is placed in the extractor, is uncapped with a suitable knife; but comb with a feeble support, or in a broken condition, is uncapped and extracted in lids of wire net-work. (See AMERICAN BEE JOURNAL for Dec. 5, 1888.)

The method of straining the honey after it is extracted, should be adapted to the condition of the honey, and other circumstances. A general error is to force it through a cheese-cloth, with meshes so coarse that the honey carries with it foreign particles, being left more or less in a cloudy condition, and is neither attractive to the eye, nor delicate to the taste. The desideratum to be obtained, is pure honey, and nothing else. This can only be effected by straining it through close, firm muslin, not by pressure, but by a slow process of percolation, the honey passing through the cloth in transparent crystal globules. (See AMERICAN BEE JOURNAL for Aug. 8, 1888.) For this condition of honey, I have not found to fail a good local demand and uniform price.

WHEN TO EXTRACT HONEY.

It is generally conceded to be indicated to extract when a comb of honey is capped. Then it is supposed that it is "cured," and fit for extracting. But as capping is not uniform, and extracting has to be done with many combs only partially capped, what have we to do with this mixture of honey that in the aggregate is only partially cured? This is an important question. But in the first place, what is "cured" honey? It is honey inspissated. Imperfectly cured honey, after straining, needs special attention; otherwise it may pass into acetic fermentation.

CURING THE HONEY.

There are three ways by which honey is cured, viz: 1. In the comb. 2. Soon after extracting. 3. In storage.

First, as regards the curing of honey in the comb, we might ask this question, "Will a long storage of honey in the comb improve it?" Certainly not, as, by age, the capping becomes impure and dirty, which in time will, to a more or less extent, penetrate the honey and give it a dark tint.

Second, the curing after extracting is to leave the honey in open vessels, not entirely excluding the air, but especially protecting it from the dust and light.

Third, the process of curing in storage takes place in barrels, after previous ripening; and is something like a limited vinous fermentation, or rather the development of a melic ether—a process of purification; for after such a storage for a month or two, the honey will wonderfully improve in its crystal appearance. By this method, the honey must be kept perfectly excluded from atmospheric air.

CRYSTALLIZATION OF HONEY.

Honey in barrels will tax our utmost ingenuity to keep it in a state of fluidity, and not allow it to turn into crystallization. Candied honey in the market is an abomination. Although to the eye of the bee-man it is indicative of its purity, the customer associates it with the dregs of a molasses barrel, and is consequently little disposed to buy it.

Crystallization of honey can be rectified, as well as prevented, by the application of heat. This will cause such a molecular change in the honey as to bring about the desired effect. But if the action of heat is too great, it will give the honey a dark tint, and tends, in a measure, to impair the deliciousness of its taste.

I have tried two ways to treat crystallization—first, of the honey in glass jars, and, second, as a prophylactic, in putting it up in barrels.

When the crystallization first forms in the bottom of the jars, I place about a hundred of them at a time in a metallic trough, in enough cold water to reach to two-thirds the height of the jars, and then apply the heat gradually until the crystallization is perfectly dissolved. This heat is not to go beyond 160°, Fahr., but may be held at that point until perfect dissolution has taken place.

To prevent the crystallization in barrels, the honey at the time of straining, is to be warm in temperature, but not hot. Even to strain the last half of the barrel warm, may suffice to secure a lasting fluidity of the whole.

The barrel is to be kept permanently air-tight.

HOW TO HEAT HONEY.

Sometimes I heat honey in the process of straining, at least when the weather is cold, and that part I expect to keep over winter. In an article published in the *AMERICAN BEE JOURNAL* of Aug. 8, 1888, I gave the form of a strainer, which is a muslin bag about four feet long, cone-shaped, hemmed at the opening over an iron or wooden ring, or hoop, to keep it open, and to receive hooks for suspension.

When the honey in the bag is too thick and cold, to strain freely, I slip into it a tin cone, nearly half the size of the bag, and fill it with boiling water; as the honey gets heated by induction, the straining goes on admirably. When the water loses its heat, it can be readily removed by a syphon, for which I simply use a common gum-elastic tube. Sometimes I place the vessel that receives the strained honey, over a kerosene stove, and lower the strainer with the honey into it, and heat carefully.

After the whole mass comes to a proper temperature, the strainer is drawn up by the aid of pulleys, and the bag will soon become empty. By this method the temperature is regulated by the sense of touch. Much carefulness, however, must be exercised, for fear of over-heating the honey, and getting melted wax into it, and otherwise impairing its value. As I am writing this (Dec. 2, 1889), I have straining going on, by the aid of heat in my honey-house.

One difficulty in straining through fine cloth, is that it soon becomes clogged with fine particles of wax, etc. This will oblige us to keep several clean strainers on hand, and as one ceases to be serviceable, a fresh one must be used, leaving the honey that may remain in the partially-clogged one to percolate slowly, which may take several days before it is empty and fit for washing. The water in which the strainers are washed, may be used for making honey-vinegar.

It is an interesting experiment to extract honey and do crystal straining simultaneously, and with marked rapidity. This is effected by placing the comb, after it is uncapped, into a loose-fitting sack, made of thin, fine muslin, which is the strainer. The same centrifugal force that will throw the honey out of the cells, will force the honey through the strainer. These sacks are very easily changed and cleansed, and are not so quickly clogged as the cone-strainer, for in reversing them an opposite pressure has a tendency to clean the sides of the

sacks, working the debris to the bottom.

Another method, is to extract honey in the ordinary way, and afterwards strain it by placing it (and even capings) in tin boxes with straining-cloth on both sides, and strain by extraction.

TO BLEACH HONEY, AND TO CONVERT IT INTO SUGAR.

The question of bleaching honey has often come to my mind. As solar bleaching has such a happy effect on wax, I was led to try it on honey. So, for the double purpose of breaking down crystallization in jars, and bleaching in the same time, I filled a "solar wax-extractor" with jars of honey. The heat destroyed the crystallization, but the excess of heat darkened the honey, and virtually ruined it. This experiment shows how careful we must be in manipulating honey with heat. It likewise points out the method of evaporation for converting honey into an acceptable sugar, which should be done more by a tepid-fanning process, than by heat alone.

WHEN TO SELL HONEY.

Having secured the honey in a pure condition, either in bulk or glass jars, it is ready for the market. I neatly label the jars, only as the honey is ordered, to give them a new and fresh appearance. The human taste, in its craving for sweet and fat, is more active in the fall and winter, than in the warm weather. It is a physiological necessity. Advantage should be taken of this fact, to sell at the right season.

EXTRACTED VS. COMB HONEY.

Extracted honey will evidently remain a staple article in the market. Honey in comb, on account of the wax, is not as digestible, nor is it as free from impurities as nicely-extracted honey. As it is difficult to secure it always in a neat, uniform appearance, and requires much care in handling, it is not likely to be much longer furnished by extensive apiaries. I tried it for one year, as a novelty, and found the extra care and labor it required, made it less profitable than extracted honey at a less price.

MEDICINAL PROPERTIES OF HONEY-SPRAY.

It is well known in extracting honey, that an atomization of honey takes place, which not alone permeates the room, but at times arouses the whole apiary while the operation is going on. Persons with weak lungs, who work the extractor and inhale the honied air, are wonderfully benefited by it. Why does honey work as a pulmonary sedative, having no direct sedative properties in itself? The medical profession is fast drifting into the belief,

that all pulmonary diseases are maintained through a micro-organism, in particular in phthisis, pneumonia, whooping-cough, etc.

Honey is an efficient antiseptic; but differs from all others in being void of irritating properties. When kept in contact with microbes, it is destructive to them, and it is their destruction that gives ease, and apparently serves as a sedative. This accounts why it serves as an efficient tropical remedy for many external diseases.

To atomize honey for any kinds of a cough, asthma, influenza, hay-fever, etc., it should be used in a warm solution, and applied by a steam atomizer. In certain cases, the honey-atomizer should be in the chamber of the patient in continuous action day and night.

From experience of personal benefit, I am greatly interested in this part of the subject—and I believe the bee-fraternity may confer a benediction upon mankind by reporting their experience and observation on this matter.

Austin, Texas.

SPRAYING TREES.

Some Foolish Advice Given by Editors.

Written for the *American Bee Journal*
BY S. I. FREEBORN.

A law against killing our insect foes! Two generations of cultivators have been striving to discover methods or enact laws to enable man to harvest his share of the crops. And now comes that wise and good man, Prof. A. J. Cook, of Michigan, advocating a law to prevent fruit-growers from spraying blossoming fruit-trees with poisonous insecticides, because forsooth, the bees are also insects, and will go into the trees in search of honey. Verily, it must be that Prof. Cook was trained in an ultra "protectionist" school! The bees are all right, and honey is a good thing, but really, it seems as if the fair old rule of "the greatest good to the greatest number" were a just guide in such matters.

Surely, fruit is of more importance than honey! If those busy workers must have Legislation, let us advocate a training school for bees, in which they may be taught to keep out of the orchards at the dangerous period. The fence question comes in here, too. Will not the law compelling an owner of domestic animals to fence them in, apply to apiarists as well as to other stock farmers? Is it more lawful for a bee to trespass, than for a cow or a pig?

The above item from the *American Garden*, by the editor, it seems to me, should be noticed. When the editor of such a publication as the *Garden*, advocates the promiscuous killing of bees, along with other insects, and that under the plea of "the greatest good to the greatest number," it is time that he was noticed by somebody. I think that when the learned gentleman informs himself of the facts in the mat-

ter of the relation of fruit-growing and bee-keeping, he will find that the interest of the two pursuits are closely identified.

Prof. Cook says, and no doubt truthfully, that the proper time to spray fruit-trees is just after the blossoms drop. This will save the bees, and will kill the codlin-moth, and destroy the leaf enemies of the trees. Prof. Cook is a close observer and experimenter, an accepted authority in all that relates to the insect world, and will not be troubled much by the disparaging remarks of the *Garden*. The greatest harm is, that those not acquainted with the facts will accept as truth such paragraphs as the one above referred to.

I am a horticulturist, myself, and expect to do some spraying of fruit-trees with insecticides, but shall wait until the bees are through with their mission on the trees.

The editor's pleasantries about teaching the bees to keep out of the orchards, and restraining them like cattle, is beneath the dignity of one that assumes to be a teacher in the noble profession of horticulture.

Ithaca, Wis.

[It is such pernicious articles as the one from the *American Garden*, that do the most damage. Editors, as well as bees, need to learn something, and the editor of the *Garden* is one of them.

—Ed.]

FOUL BROOD.

How to Cure and Detect Foul Brood in the Apiary.

Read at the Michigan Convention
BY HON. R. L. TAYLOR.

I have been requested by the authorities of this association, to prepare an essay on the subject of foul brood, and, in complying, I shall deal with the matter wholly from a practical standpoint. How its symptoms and progress appear to an average bee-keeper, and how it should be treated by the practical apiarist who is without scientific training or habits, are the points to which I desire specially to direct your attention.

I have had a somewhat intimate experience with the disease for the last three and a half years, among my own bees, and have had it there for at least a year longer. When first noticed, I think that about 5 or 6 colonies were affected. I say "noticed," for though I saw its effects, I did not recognize it as foul brood. Not till I had managed my apiary during a honey-flow, in a manner best calculated to

disseminate the disease, by extracting, changing combs and feeding back, did I awake to the fact that the plague was not only present, but had a thorough foothold.

Almost from the start, I determined, at the risk of loss, as well of time and labor as of bees, to learn what I could of its character and workings; so while I tried to eradicate it, I made that purpose so far subject to the other, that I did not act precipitately, but tried different plans of cure, watching symptoms and the results.

I was always careful in respect to combs and honey affected, and in other respects used the care that the average person might be expected to exercise when impressed with its importance, without observing the extraordinary precautions in every particular, which are usually insisted upon.

The first colony that excited my attention—which was in June, 1886—had here and there dead brood in the imago stage, and little, if any, that answered to the usual descriptions of the disease. As the dead brood was in the heart of the brood-nest, and could not have been the result of chilling, I was somewhat alarmed, but after watching it awhile, the colony cast a swarm, and having noticed no radical change, and as the brood of the swarm was entirely healthy, in the rush of the season I dismissed my fears for the time.

In August, I awoke to the true state of affairs, on an examination of colonies to which honey had been fed back in order to complete a lot of partly-filled sections. Now, there was no mistaking the character of the malady. The viscid nature of the dead matter, sunken perforated cappings, the increase of the disease, and, in colonies where it had made considerable progress, a faint odor like that of a poor quality of warm glue, were all there. If half that had been told of its malignity were true, there was reason enough for alarm, and most of my colonies should have been affected, for the conditions for its dissemination could scarcely have been more favorable.

From a heavy yield from basswood, the brood-chambers had become overloaded with honey, and two or three combs from nearly every colony had been extracted, and freshly-extracted combs had been carried along and exchanged for the ones removed. Moreover, robbers were plentiful, and the young man who did most of this work, was persistent in facing, but not very skillful in circumventing them.

How to meet and overcome the great plague, was now the uppermost question. About that time there had been considerable discussion of the malady, and of different methods of cure, in-

cluding the contributions of Messrs. Jones, Muth and Cheshire, of which I had the advantage. The "starvation cure," as being the most convenient, was first tried largely, and as the season was such that feeding became necessary, Muth's "salicylic acid formula" was used in medicating the honey fed.

About 40 colonies were operated on that season, the bees being confined according to Jones' directions, with every precaution, till signs of starvation ensued, when they were put into clean hives—a part on foundation, and a part on clean, empty combs. All the contaminated hives, combs and honey, were boiled, and the honey, after medication, was fed to the bees under treatment, their hives marked and carefully watched for results. These were anything but satisfactory. In a considerable percentage of the cases, the disease soon reappeared, and, in others, after a time.

Thus the first campaign closed with meagre results, so far as making practical headway against the enemy was concerned. In casting about for a new plan of procedure, I remembered that the swarm from a diseased colony became freed of the disease, by simply being left to itself after hiving on foundation; and while I did not propose, and did not give experiments with other methods, I kept my eye on this, as possibly the "pole star" that might guide to an easy escape.

The next season, in addition to the methods before used, spraying, both with salicylic acid and with a phenol preparation, was tried, but I was not long in deciding that it was entirely impractical for Americans, who must have expeditious and simple methods, and quick and certain results.

As soon as the proper season arrived, I tried the new method of simply putting the bees into a clean hive furnished with foundation, and anxiously watched the issue. It was successful. Of the numerous colonies so treated, whether the swarms were natural or made by dividing, I do not remember that one retained the disease. Here, then, was a method than which none could be simpler or more effectual.

To fix upon a systematic plan for the practice of this method, best adapted to serve the interests of the apiarist in the matter of making the most of the bees in securing the honey crop, was the next step. Regarding the time for the operation, it must be during a honey-flow, not necessarily great, but of sufficient reliability to insure against any necessity of feeding.

I found, in my experiments, that feeding a few pounds of honey medicated with salicylic acid in the spring—the food being placed in an upper story, in a capacious feeder—the dis-

ease though never cured was completely checked, and the usefulness of the colony for the production of honey preserved. One colony so fed, yielded, notwithstanding the foul brood, twice the average of the apiary.

Another benefit of this feeding is, that it practically prevents, I think, the dissemination of the disease from each colony. Taking advantage of this discovery, after much consideration I decided upon the following plan of operation, as the best under all circumstances:

In the spring, about the middle of May, feed each colony to be treated as above indicated, then treat it as healthy colonies are, until such time as the brood to be reared from eggs just laid will be of little use in the collection of the main honey crop—say 30 days before the probable close of the flow from basswood; then cage the queen in the hive for three weeks, and at the end of that time, move back the hive, and place a clean hive furnished with foundation on the old stand, and run all the bees and the released queen into it, remove the old combs and hive to a safe place, and the work is done. Of course, colonies may be treated in the same manner during any other sufficient honey-flow.

This will serve to disclose the general principles, but to every ingenious apiarist who has several colonies to be treated, modifications of the plan will be suggested, which may be advantageously adopted under certain circumstances.

After the close of the honey season, all curative operations must be suspended, and any remaining diseased colonies are to be marked for treatment the ensuing season. It is to be observed, however, that all colonies so badly affected as to be materially weakened in numbers, should not be expected to winter successfully, and should either be united or destroyed.

CHARACTER AND INDICATION OF FOUL BROOD.

Now, at the risk of wearying, let me say a few additional words as to the character of the disease and the indications by which it may be best discovered; and let it be understood that I state only conclusions from my own experience and observation of the disease, as it has appeared in my own apiary. Of course it is only an unmitigated evil, but if you should discover it among your bees, do not allow yourself to become disconcerted. It is not so black as painted. It takes time for it to destroy a colony, and I doubt if it would ever destroy a considerable apiary in the absence of gross neglect in guarding against its dissemination. I have had probably

100 colonies affected, almost all of them becoming so through what was, under the circumstances, gross neglect, but I never saw any indications that a healthy colony standing next to a diseased one, was any more likely to contract the disease than if it were standing rods away.

What is to be specially guarded against, is allowing healthy colonies to have combs or honey from those that are diseased. If one allow a colony to struggle with the disease till it becomes weak, or is dead, robbing will probably follow, and the contamination be carried to healthy hives; but if one is acquainted with the early symptoms, all that is easily avoidable.

The difficulty heretofore has been that the descriptions of it, which have been made most prominent, are of it as it appears in badly diseased colonies. If one waits until he can smell it in the apiary outside of the hives, there will then be abundant cause for alarm. Like some diseases which at times afflict mankind, it seems to arise, become malignant for a time, then lose its vigor, and at last die out. The character of the first indications seems to depend upon the stage of the disease in this respect, as well as upon the extent of the inoculation.

During the less malignant stages, and perhaps on slight inoculation at any stage, the first brood diseased reaches the imago state, and does not decompose, and the first that softens entirely does not have the homogeneous viscid character that brood affected later acquires. Then appears the somewhat sunken, slightly-darkened cappings over the brownish viscid mass within, which dries and flattens down a thick scale on the lower side of the cell. Then after the diseased cells become plentiful, on holding the comb close to the nose, a slight but disagreeable odor, like that of warm glue of a poor quality, is perceived.

Generally, but not always, some of the cappings of diseased cells are perforated. If a colony contract the disease from the plentiful feeding of honey containing foul brood germs, most of the diseased brood may not be capped at all. In a diseased colony that has passed the winter, the malady does not generally reappear in the spring for a month or more, after brood-rearing begins, but is sure to appear at last, and, as a rule, progresses more rapidly than during the previous season.

Thus much for the indications within the hive; but the careful apiarist will be attentive to the external indications also. Without other signs, if foul brood is abroad, a lack of activity and general prosperity in a colony should prompt to closer scrutiny, and if this cue is acted upon, and care exercised,

generally the disease need not be attended by very disastrous results.

I have already stated that often the brood first attacked reaches the imago state, and becomes so mature as to preserve its shape and consistency. I think that there can be no mistake about this, for in several instances I have correctly prognosticated the disease when no other phase of it was present. The other phases followed in time. These are carried out in front of the hive. Mature bees also die of the plague, and are carried out, so that often, at certain stages, there is an undue accumulation of the dead in front of the hives of diseased colonies. Often, too, mature bees, weakened and unable to fly, are yet able to desert their hives in considerable numbers, and may be seen hopping away upon the ground.

If all of the foregoing indications are looked for, and prompt action taken where any of them appears, one may feel reasonably safe without a frequent general examination of the brood-chambers of the apiary, expressly to search for signs of the disease.

In conclusion, whether the disease will die out of itself, I do not certainly know, but I know that it seems to lose its vigor. I have treated none the past season, but have three affected colonies on hand, which I am keeping for study. Two of them certainly, and all, probably, have had the disease for more than a year. In two of them the disease has made no apparent progress the past year; in the other, the prosperity of the colony has been somewhat affected.

Lapeer, Mich.

WINTERING.

How to Prepare Bees to Winter Successfully.

Written for the American Bee Journal

BY J. A. PEARCE.

How shall we winter our bees? This question perhaps more than any other just now, is being asked by bee-keepers generally. It is the leading, unsolved problem of the apiary. If honey is to become a staple article of food, like pork, patent flour, or beet-sugar, and not the fitful thing it now is, we must have better wintering of bees, and hold our honey in good, straight combs and pails, and not try to throw it all on the market at once.

How can better wintering of bees be attained? It occurs to me something like this: If bee-keepers would cease for a time sending in their almost useless, big, honey reports, and in lieu of

them, send a simple, plain statement of just how and where they winter their bees, it would go very far towards settling this question. By loading that great "gun"—the AMERICAN BEE JOURNAL—and firing a few rounds at this Monster, he would be either dead, or so badly crippled, that he would limp off to die in the near future. With this end in view, I will report how I have wintered my bees for the last four years, without loss.

I have an ordinary house-cellar, 18x24 feet, without any ventilating-pipes running to it. My bees are in the 8-frame Langstroth hives—94 colonies in the cellar at this writing, all bright, clean and quiet. They were put in on Nov. 12.

A few days before putting them in, I remove the enameled cloths, and substituted a quilt made of two-thirds of a pound of batting, held in burlap. I then prepare the cellar by putting three empty hives along one side; on these I lay two 2x4-inch scantling. Now I am ready to put in the bees. I take a lot of pieces of lath, one for each hive, 14 inches long, to close the hive-entrances. I drive a carpet-tack through each end—they just reach through so that the points enter the wood, and prevent the force of bees from pushing them off.

Then I have carrying-racks made of 6-inch boards, 6 feet long, with pieces nailed across to put the hives on. I place two hives on, and two men carry them to the cellar top, and from there they put them down in with their arms.

When the first row of scantlings are full, I lay two more on top of these, as near the ends as possible, and place another row of hives on these, and so on, having nothing on the hives but the quilts.

Now I put down three more hives far enough from the other row to admit of walking between, and tier up the hives as before, and so on until the cellar is full, or the bees are all in. Putting the hives right over each other, gives a circulation of air up between them.

When the bees are all in, I darken the cellar, and when the bees quiet down a little, I remove the laths from the entrances as quietly as possible. I want to say right here, that the bees should not be disturbed any more than possible. You will observe that the sound of a hammer has not been heard, as was said of the "building of Solomon's Temple." I do not allow the hives or supports to touch the sides or top of the cellar, so as to receive any jar from above.

I now bring the temperature as nearly 42° as I can, as I find that the bees come nearer hibernating at this

point, than at any other. They become so quiet that if a stranger would go into the cellar without a light, he would stumble upon them, for want of any warning sound.

When Rev. W. F. Clarke advanced his "hibernation theory," he sounded the key-note to successful wintering; for, rest assured, that if the bees are making a noise, there is something wrong, and you had better find out what it is, and correct it, or there will be a lot of empty hives in the spring.

I do not think that my bees consumed 4 pounds of honey per colony last winter. They were so full of bees in the spring (April 8), that a good many colonies hung out the first day they were put out of the cellar.

The first year I kept bees, I left the enameled cloth on, and all the bees on the summer stands died. There was a half inch of ice in the hives, all around. The moisture from the bees had rushed to the cold surfaces and then condensed there. I then saw that it was moisture in the hives that killed the bees. This I have since prevented, by using quilts to keep the cluster warm, but at the same time let the moisture pass off and condense on the cold cellar-walls, instead of on the inside of the hive. Since I have practiced this, I have had no loss, notwithstanding one year they had very poor stores—mostly honey-dew and oak-juice.

Grand Rapids, Mich.

THE UNION.

Importance of Joining the Bee-Keepers' Union.

Written for the American Bee Journal

BY HENRY K. STALEY.

In looking over the list of members enrolled under the "National Bee-Keepers' Union," I was somewhat astonished at the fact that it has only a few hundred out of the 300,000 bee-keepers of America; and that many of the names of our leading apiarists, who make their bread and butter from this pursuit (as well as some of the leading editors of our bee-papers), should have their names absented from its list.

In view of these things, I ask, What can members of the Union expect from minor apiarists, who may have only a few colonies, which they work with *ad arbitrium*, during hours of recreation from their studies or pursuits, and to produce enough honey for their own use? These people do not depend upon a livelihood from the bee, and therefore should be less expected to join the Union, than those who make their living from bee-keeping, and who cannot afford to be assailed by ignor-

ance, prejudice, and the whims of reporters.

Yet I am persuaded, that if the leading apiarists of our land would show a greater interest in this object, the minor apiarists would then bring up the rear with their dues. A good many of them have seen the wonderful monument of adamant truth and prosperity raised by this small handful of bee-keepers, on the lands of Arkadelphia. They have seen how the high-handed Council of the city of Arkadelphia, had to sneak off like "whipped spaniels," and in the sweat of their faces, eat their own bread of bitterness, when the unprejudiced and unalloyed light of the Supreme Court of Arkansas was thrown upon them.

Here we have a precedent, obtained by some 300 bee-keepers, which will stand as a guide for judges to be governed by, in such and analogous cases, as well as for the enlightenment of City Councils, and as a cover for biased and prejudiced men against an honest pursuit. The immensity of this decision can hardly be comprehended by one not familiar with our laws, and the highest law of the land—the Constitution of the United States.

I think that every apiarist whose name was on the roster of the Union, when this case was won, may feel justly proud, in that they, each and every one, helped, by their means, to contribute toward its success. Indirectly, they helped to show that bees are no more a nuisance *per se*, than that a mule may put into operation his natural propensity of recalcitrating when irritated; and that bee-keepers have rights which cannot be trampled on by biased City Councils.

Now, to keep up the good work that the Union has done, and is still doing, more bee-keepers must become members; and the way to do that, is to arouse all the energy, and create an incentive at the top of the bee-keeping world. Every editor of every bee-paper, who is not a member, should become one at once, thereby setting the example; and then create an unstoppable stampede, by writing an article *sine die*, and by means of the same, inform his subscribers what the Union is, what it contemplates doing, and what good it has rendered for every bee-keeper in the land. Let them know how Mr. Clark was thrown into prison, and maltreated, and commanded not to keep his bees within the city limits. Let them know of the magnificent argument of the Hon. S. W. Williams, attorney for the Union, and of the *skunky* argument of Messrs. Crawford & Crawford, for the city of Arkadelphia!

I think that by so portraying this case to the bee-keepers of the land,

they will recognize its worth to them, and willingly join hands with us, that we may battle with the other lawsuit cases, and render other prejudiced men *hor de combat*. Brother bee-keepers, you have seen what the Union has done—now is the time for each and every one of you to come forward and lock hands with us. “Delays breed dangers. There is nothing so perilous as procrastination.”

Cincinnati, Ohio.

MARKETING.

Selling the Honey Crop in the Home Market.

Written for the American Bee Journal
BY WILLIAM CROULEY.

My report my 1889 is as follows: I began with 80 colonies, spring count, in fair condition, increased to 120 colonies, and took 2,000 pounds of comb honey in sections, and 1,500 pounds of extracted honey, being the poorest of the last three seasons. It was the “off year” for basswood to bloom freely, and the bees were not in readiness when it did bloom, to do good work; and it was so dry in the fall, that the fall honey crop was almost a complete failure.

I have sold the honey at my home market—comb honey at 20 cents per pound, and extracted at 12½ to 15 cents per pound, right in the face of some of my brother apiculturists, who have tried to force honey on my market at about half that price.

DISPOSING OF THE HONEY CROP.

I will give an idea of how I manage my home market, hoping that it will benefit some of the fraternity, who, I imagine, are a little deficient in this most important feature of our business.

I furnish each grocery in the town with an attractive show-case, and he gives it a prominent place on his counter. These cases open from behind the counter, to prevent customers from handling the honey. The cases I keep well filled with both comb and extracted honey on sale. I do not ask them to buy the honey, but open an account with each merchant, and receive credit for the honey when delivered to them, at the retail price, which price I make the same to all of them.

I do not care how much honey they sell, but they sell all that I can use in trade in my family, which is quite an item in the course of the year.

Now as to the cash part of my business: I have the good-will of the merchants, and they have stood by me, for they have not shipped in a pound

of honey in the last two years, although it has been repeatedly offered to them at ruinous prices.

In the winter, I make boxes for re-tailing comb honey; they are made to hold a half dozen one-pound boxes. I make them of a good quality of shingles; 1,000 will make about 160 boxes. The ends are made of ¾-inch lumber, to nail to. By nailing the shingles one thick end and one thin end, on the opposite sides, it makes a square box. The material costs about 2 cents per box. It makes a neat package for the purpose.

As soon as the first honey is ready for market, I take my sample case (which holds two sections, and is nicely made and painted), and go on a little excursion through the towns and country, and of course I show what I have in that “funny little case.” I am pretty certain to get an order at nearly every house for at least one box of a half dozen sections, which I sell for only \$1.00. My sections are filled so that a half dozen weigh about 5 pounds. I sell them for 20 cents each, in less than a half-dozen lot, so that I seldom fail to sell one box, if they will buy any at all. The majority of my customers have used, so far this season, from 3 to 8 boxes, and I find it the hardest to sell them the first box; they often hail me on the street with, “Got any more of that fine honey? It is going fast. Send two or three boxes to my house, just like the last one we had.”

My extracted honey I put up in tumblers—pints and quarts—and two-quart fruit-jars. It often seems to me, when I see bee-men scouring the country several hundred miles from home, offering honey far below the market price, that there must be something wrong. The further I go from home, the harder I find it to sell my honey; consumers like to know where the honey comes from, for the “Wiley lies” are not yet all dead.

UNFINISHED SECTIONS—BEE-ESCAPES.

I find it a tedious job to extract the honey from unfinished sections. Last fall I uncapped them, and filled a super half full, and as far apart as I could get them. I then put the super on the hive of a colony that needed feeding; in 24 hours every drop of honey was taken out, and carried to the brood-chamber. Give it a trial next fall.

I feel very thankful to those who so kindly have donated to the fraternity, the bee-escapes mentioned in recent numbers of the AMERICAN BEE JOURNAL. I trust that they all will prove successful in getting bees out of the sections.

Redwood Falls, Minn.

BEES ON THE FARM.

How to Manage Bee-Keeping with Farming.

Written for the American Bee Journal
BY FRANK COVERDALE.

Bee-keeping amongst farmers is quite often looked upon as a matter of aggravation, or little profit, all things considered; for there are many of this class who even go to the bother and expense to furnish their bees with movable-frame hives, and then hive them upon the same, not even looking to see if they build straight combs, or furnish them with a particle of foundation; then the hive may be unnoticed for three weeks or more, when the operator will raise the honey-board to see if they are ready for sections, but, too late, the honey harvest is over—the sections are put on, but there is no honey, and no profit.

The farmer is called from the field, by his wife ringing the bell; he hitches his horses to the fence, and runs to save the swarming bees, thus leaving the hay-field, road-work, or whatever it may be; so he neither farms nor keeps bees successfully.

With the foregoing state of affairs, it would be better not to have a colony of bees on the place, for such a farmer could buy his honey cheaper.

As I farm 247 acres of land, and make a success of both farming and bee-keeping, I will tell how I do it. In the first place, I do not work my land until it grows but one-half of a crop of grain or corn; but I choose a plan different from this, and keep it quite reasonably well in grass, and grow about 50 acres of corn; so it will be seen that by this treatment, the ground is rich, hence a heavy yield of corn, good pasture, plenty of hay and young stock upon the place.

I am not compelled to go to the field every day, but can have considerable time to look after my bees. I go out and help to plow the corn the first time through, and if honey is not coming in, I keep on plowing; thus the corn is not neglected. When the corn-field is clean, and honey is commencing to come in, my man goes right ahead with the corn-field.

When the bees are well supplied with cases, and well at work, I mow down the grass for hay; but before starting, I bring some nice, light 8-frame Langstroth hives from the storehouse, and place them within reach; and as the bees are close to the back door, my wife will be sure to hear or see them if they swarm. With queen-cage and veil she starts for the beeyard, cages the queen (all have clipped wings), puts down the smoker, and

soon returns with cover and top-board in one hand, and the body of the hive on the same arm, and the bottom-board in the other. Any woman with ordinary strength can do this with ease. For \$5.00, a girl can be had for these two weeks in haying, and my wife likes no better fun than to cage queens, and place the hives close by the old one, throwing a canvas of some kind over the old hives. The rest is left for me, when I come from the field.

During the two weeks of making hay, many of the section-cases will be ready to take off. I can well afford to take a half day to put the bee-escape boards under the section-cases, and put other empty cases underneath. In two or three days I carry my bee-deserted cases to the honey-house; here will be a half day more lost (?). Thus the white clover honey-harvest, with haying, will be almost at a close, and I will have plenty of time to attend to the other cases left on. The bees will not bother much in oat harvest, as a general rule.

The grain is stacked without interference; this, perhaps, will be about the middle of August. One week after this date, heart's-ease begins to bloom here, and, as a rule, yields surplus; it often exceeds that of clover. At this time of year, the farmer will find plenty of time to attend to the honey crop, and prepare the bees for winter's quiet.

We will say that 50 pounds of comb honey will be about the average per colony, over the United States; thus 50 colonies would annually produce 2,500 pounds, which at 12 cents per pound, would amount to \$300. Twenty-six hogs, weighing 350 pounds each, will bring, at present prices, \$296.75. I want to say right here, that no one thing upon the farm, pays me so well, in dollars and cents, as do the bees; and with no other great industry, does apiculture combine better.

Welton, Iowa.

A Special Club Rate.

A Magazine of the choice literary character which the ILLUSTRATED HOME JOURNAL sustains, will add many pleasures to any "family circle." Its beautiful illustrations and interesting reading-matter will make it heartily welcomed at every "fireside" in the land.

We desire that every one of our readers should secure its regular visits during the year 1890, and in order to induce them to do so, we will make this tempting offer:

We will Club the AMERICAN BEE JOURNAL and the ILLUSTRATED HOME JOURNAL, and mail both periodicals during the whole year 1890 for \$1.50, if the order is received at this office before January 31, 1890.

CONVENTION DIRECTORY.

1890. Time and place of meeting.

- Jan. 21-24.—Minnesota State, at Excelsior, Minn.
Wm. Urie, Sec., Minneapolis, Minn.
Jan. 22.—Vermont State, at Burlington, Vt.
J. H. Larrabee, Sec., Larrabee's Point, Vt.
Jan. 28.—Cortland Union, at Cortland, N. Y.
M. H. Fairbanks, Sec., Homer, N. Y.
Feb. 5.—Wisconsin State, at Madison, Wis.
Dr. J. W. Vance, Sec., Madison, Wis.
Feb. 5-7.—New York State, at Rochester, N. Y.
G. H. Knickerbocker, Sec., Pine Plains, N. Y.
Feb. 19-20.—Ohio State, at Cleveland, O.
Miss Dena Bennett, Sec., Bedford, O.
Feb. 19-20.—N. E. Ohio, N. W. Pa., and Western New York, at Cleveland, Ohio.
Geo. Spitzer, Sec., Mosiertown, Pa.
May 3.—Susquehanna Co., at Hopbottom, Pa.
H. M. Seeley, Sec., Harford, Pa.
May 19.—Northern Illinois, at Rockford, Ills.
D. A. Fuller, Sec., Cherry Valley, Ills.

In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

SELECTIONS FROM OUR LETTER BOX

Gathering Pollen and Honey.

Pollen and honey are coming in. I have 41 colonies of bees, which are on the summer stands, and to-day they are working very strong, and carrying in lots of pollen and some honey, which they are gathering from the soft maple. They have worked some every day for the last ten days, except on two or three days. Prospects are splendid for a crop of white clover next spring.

J. H. COMPTON.
Cowling, Ills., Jan. 10, 1890.

A Good Yield of Honey.

I commenced the season of 1889 with 30 colonies, increased them to 75, and took 5,850 pounds of comb honey in one-pound sections. I have united and sold my bees down to 60 colonies, 50 of which are packed in chaff hives, but packed overhead. They are wintering finely so far on the summer stands. I have out on commission, and sold, all but 700 pounds of my honey. It seems to be selling slowly. The clover seems to be in good condition so far. It is cooler this morning, and it looks as if the nice weather we have been having, is disappearing fast.

JOHN BLODGET.
Empire, Mo., Jan. 6, 1890.

Self-Hiving Arrangement, etc.

On page 27 is an article from Henry Alley, concerning the self-hiving of bees, by means of what he calls a novel device—attaching two hives, an empty one, and one with a colony in it, side by side, so that when a swarm issues, the queen finding that she cannot pass directly out to join the bees, runs along the device, and passes into the new abode, and is there joined by the bees. Mr. Alley says that the inventor of the apparatus thinks his discovery worth the moderate sum of \$1,000. I have not as yet looked up the article in the BEE JOURNAL, that he refers to; but I have had hanging in my bee-shed between four and five years, this grand discovery of a self-hiver, made without having heard of, or seen, anything of the kind. Several of my bee-keeping friends belong-

ing to the Philadelphia Bee-Keepers' Association, saw it on the hives, and it was referred to at one of their meetings; whether somebody got the idea from that, I do not know, but I do know that I never have seen or heard of anything of the kind until I saw Mr. Alley's article.

I made a self-hiver out of 1/2-inch lumber, making a box 20 inches long, and 3 inches deep on the ends and one side, and the other side 4 inches deep, that it might serve for an alighting-board. In the bottom I made two openings, one for the entrance of each hive; on the front, I nailed a piece of perforated zinc 20 inches long and 4 inches wide. I only tried it once, and not having secured it in its place, the queen found a little side-door arrangement by which she joined her subjects; but of course the device must answer the purpose, if properly secured. The cost of the device is comparatively nothing. The honey crop was a failure the past year. I extracted a few frames with my home-made extractor very nicely.

Philadelphia, Pa. L. STOUT.

Pollen from Dandelions, etc.

Western comb honey is retailing at 12 1/2 cents per pound in one-pound sections here. Bees were gathering pollen from dandelions on Dec. 28, 1889; and on Jan. 12, 1890, bees were bringing in pollen from dandelions and swamp-cabbage, like in early spring. The temperature was over 80 degrees in my apiary.

H. P. FAUCETT.
Dilworthtown, Pa., Jan. 14, 1890.

Bees Breeding Rapidly.

Last month was more like April than December. Vegetation was in bloom in southern exposures, and green strawberries are on the vines. Bees have been bringing in pollen up to this time, as in the fall, and storing some honey from maples and other sources. At one time there was an abundance of honey-dew in some locations. Bees are breeding rapidly, and are in good condition.

C. WEEKS.
Clifton, Tenn., Jan. 7, 1890.

Making Bee-Escapes, etc.

I have read Dr. Tinker's way of making the Dibbern bee-escape. My way is so simple, and I am fearful that it will not work. I take a board as long and wide as the hive; this board is made with a half bee-space on both sides, as my hives and supers have half bee-spaces. On this board I nail three strips, 3-16 of an inch thick, and 10 inch long, nailed so as to be V-shaped. On the strips I tack wire-cloth cut to fit. I leave a space at each corner, so that one bee can pass at a time.

The weather here is all that can be desired for wintering bees out-of-doors. There is no sleighing as yet, but plenty of rain and mud.

E. M. SLOCUM.
Easton, N. Y., Jan. 4, 1890.

White Aster and Golden-Rod.

I have been very deeply interested in the BEE JOURNAL for the last five or six months, and particularly in the discussion of the merits of the so-called national flower (the golden-rod). Now let me say in all candor and honesty—I do not believe that there was ever one ounce of honey gathered from golden-rod. Why? In the first place, we never see golden-rod growing without wild aster growing in its immediate neighborhood; second, the wild aster of Southern Illinois has a yellow center, which secretes honey, or nectar, and our bees gather that,

and we call it "golden-rod honey." I have been watching for bees on golden-rod, and had my neighbors to do the same, and we have yet to find the first one to report that he has ever seen a single bee working on golden-rod. There is no fall flower that grows which receives as much attention from the bees as our white aster (commonly termed "bee-weed" in this county).

Give us the wild asters for our national flower, and we will have a flower of no mooted question as to its nectar-producing qualities! I am, as yet, an amateur in bee-culture, but I think from my own observation (and that of many bee-keepers of Southern Illinois), that if the life of the honey-bee depended upon golden-rod, there would not be a live bee in Illinois to-day. I have bees that came from the best breeders in the United States (and I think that there are no better in the world); I am proud of them, and am thankful that there is plenty of flowers that produce nectar to feed them, and which yield a surplus to spare—but I am for a known honey-producing flower as our national flower, and I object to so much praise of a flower that is neither useful nor ornamental, viz: Golden-rod.

IRA REEVES.

Carmi, Ills., Jan. 3, 1890.

Sections Filled Flush to the Edge

I use wooden frames on the three sides of my tin and zinc perforated separators, made of strips of wood $\frac{1}{4} \times 5-16$ of an inch, grooved $\frac{3}{8}$ of an inch to take the separators, and mitred at the top, leaving the bottom open for the bees. Dip the joints into melted wax to hold them in place, and you will ensure the sections being built flush to the edges. My bees are on the summer stands, with very little snow on the ground, and the temperature at 40 degrees above zero. The golden-rod produced largely and of good quality, increasing our fall crop of honey. I think that alfalfa is useless for bees or anything else.

B. LOSEE.

Cobourg, Ont., Jan. 13, 1890.

A Swarm-Hiver and Its Use.

I made and used the swarm-hiver last season, and gave others the privilege to make and use it, supposing that I was the only one that ever thought of the like. On May 20, 1889, I attached the swarm-hiver to my only colony of bees; and on June 8, I had the pleasure of seeing a swarm of bees hive themselves. It looked nice to me, for they swarmed twice the summer previous, but went—well, I do not know where, but I know that I run myself very tired for the last swarm that left me, trying to know where they went. I used wire-cloth for the connecting-tube, with a nice strip of wood on the bottom, as a floor, for her majesty to walk on, if she chose to do so. Five strips of perforated-zinc, for a wood-zinc honey-board, will make the entrance-guards for both hives, costing 5 cents; wire-cloth costing 3 cents, will make the connecting-tube, to convey the queen and drones to the empty hive.

H. T. SEWELL.

Pleasanton, O., Jan. 10, 1890.

Bees Wintering Splendidly.

Bees in this locality are wintering splendidly, the greater number being on the summer stands. There has been no cold weather this winter, to speak of—the only ice we have had was on Thanksgiving Day; since that time we have only had a few frosts. There have been warm days every week since Thanksgiving, which have been warm enough for the bees to fly. Bees are carrying in pollen and water, and the indications are that they are breeding. I think

that those who are wintering their bees on the summer stands had better bear in mind that the bees may run short of honey during this warm weather. Owing to the excessive exercise that they have during this warm weather, they consume a great amount of honey.

My bees are all in the cellar; the only trouble I have had, has been to keep the temperature low enough. I have been obliged to have the doors open at night, to keep the temperature low enough. I find that my bees are perfectly quiet when the temperature is at 48 to 50 degrees; 54 degrees is too high, and 45 degrees is too low. My bees are all in loose-bottom hives, the bottom-boards being left on the summer stands. I make a rim 4 inches deep, of $\frac{3}{4}$ -inch lumber, the same size of the hive; on this I nail a sheet of burlap, then place a break-joint, slotted honey-board on each hive, with one of these rims above it; the rim is then filled with chaff, and the colony is ready to carry to the cellar.

GEO. H. KIRKPATRICK.

New Paris, O., Jan. 13, 1890.

Bees and Crops are Forward.

My bees have been gathering pollen for the past ten days. They are on the summer stands yet, with plenty of stores. Wheat is now in joint, and on looking out over the fields, it waves like it does the first of May. We are fearful of its being too forward.

R. W. TALLEY.

Hornbeak, Tenn., Jan. 13, 1890.

Bees in Fair Condition.

I started the past season with 100 colonies of bees, and at present I have 150 colonies. I took 9,000 pounds of honey, which is nearly all sold. I have not put my bees into the cellar yet, and I do not think that I shall, unless we have colder weather than we have had so far. Bees are in fair condition yet.

E. F. MEEKER.

Duncan, Ills., Jan. 1, 1890.

The Weather is too Warm.

We had a very varied season for honey in 1889—some times too cold and wet, then too hot and dry, yet our average was satisfactory. We secured 42 pounds per colony, all in one-pound sections. Bees are in good condition now. They have been carrying in pollen nearly every day for the last three weeks. We have had no winter yet. It is too warm; we fear for the fruit and bees. Peach-trees and strawberries are in full bloom, and everything looks like April.

T. M. EDWARDS.

Kerrville, Tenn., Jan. 3, 1890.

Well Satisfied with the Results.

I am well pleased with the AMERICAN BEE JOURNAL, and the permission it gives all enthusiastic bee-keepers to tell of their methods and prosperity in bee-culture. I commenced last spring with 8 colonies, all Italianized and in good condition, and increased them to 18, by natural swarming. My idea was to let each one swarm once, and then check them by cutting all the queen-cells out but one, after swarming. In this I was successful, although two of the young swarms swarmed once each, because I did not overhaul them and remove the queen-cells, for I did not look for any of the young ones to swarm. By not letting them swarm but once, each colony remained very strong. I obtained 1,100 pounds of comb honey in one-pound sections, and 100 pounds of comb honey in frames, holding from 6 to 8 pounds, making

in all 1,200 pounds of comb honey from 8 colonies, spring count. This was gathered mostly during the summer months, as we did not get much fall honey. If any reader of the BEE JOURNAL in our State can beat this, for the season of 1889, I would like to hear from him, or her. The bees were put into winter quarters with plenty of stores of their own gathering. This, however, ought to settle the question so much asked—Does it pay to keep bees?

GEORGE FREY.

Geneseo, Ills., Jan. 6, 1890.

Dead Bees—Carrying Pollen.

I have 28 colonies, all in good condition except three, which have plenty of honey, but there are a good many dead bees. What is best to do about it? The rest are carrying in pollen rapidly.

JACK SHAFER.

Deposit, Ky., Jan. 11, 1890.

Experience with Bees.

I began in the spring of 1889 with one colony in a log-gum, from which I have now, on the summer stands, well packed in fine meadow hay, 4 strong colonies in ten-frame Simplicity-Langstroth hives, which I have reduced to 6 frames in each hive, leaving a surplus of 4 frames, averaging from 4 to 5 pounds each, which I shall return to the hives in the spring. I have followed up the instructions given in the AMERICAN BEE JOURNAL to my best ability. It was a "picnic" to see the bees, after I had read the AMERICAN BEE JOURNAL, for I would go straight to them and give them the benefit of my new reading; they objected to so much of scientific cultivation, but we kept on pretty good terms. I sold 89 pounds of surplus honey taken from the first swarm that came out. I had 13 pounds of pieces of honey from the log-gum, when I transferred them to a Simplicity hive.

I. E. MYERS.

Grant, Minn., Jan. 7, 1890.

Good Yield from Alfalfa.

The BEE JOURNAL is a very welcome visitor at our house; it is the first read out of five or six papers. It has been a great help to me for the last three years, as I get the experience of men who have been in the business for thirty or forty years. We had beautiful weather all the past fall, and up to Christmas. At present the ground is frozen one inch deep, with two inches of snow on it. The mercury is 30 degrees above zero. I had 22 colonies, spring count, increased them to 45, and took 1,300 pounds of comb honey. For the honey I received \$210 in cash! How does that sound for alfalfa as a honey-plant? Bees are in fine condition for winter. I winter them on the summer stands. I wish that some of the bee-fraternity would tell, through the BEE JOURNAL, how they return swarms to the old hive, when the queen's wings are not clipped.

F. H. McDONALD.

Star, Idaho, Jan. 1, 1890.

Report for the Past Season.

I began the spring of 1889 with 20 colonies, increased them to 45 colonies, and then in the fall I reduced them back to 38. I put 36 of them into the cellar, and have 2 colonies in the bee-shed. If I have 35 colonies in the spring, I will be satisfied. I think that my cellar is too warm, as there are a great many dead bees on the ground. I put them in on Nov. 12. I will clean up the dead bees every month. It has been very warm and rainy weather here all fall and winter so far. My honey crop, I think,

is medium; I have crated now on hand, 125 pounds in one-pound sections. I have 75 Langstroth brood-frames that will average 5 pounds each, making 375 pounds more; and I think that we have used at least 100 pounds in the family. I have also sold 62 pounds at 15 cents per pound—which makes a total of 662 pounds of white clover honey; and I think that I can get 15 cents per pound for the comb honey in sections by next spring, although it is retailing now for that in Pittsfield, Ill., and in Louisiana, Mo. If my bees hibernate through the winter all right, I will try an extractor next summer, and see what I can do with it.

LIONEL BROKAW.

Summer Hill, Ill., Dec. 25, 1889.

Woman's Experience with Bees.

Years ago my father gave me a swarm of bees, and said, "Do what you can with them." We had no home, but lived with Mr. K's father, and my hives were box-hives, like all the rest. I got no honey, but plenty of bees. My husband, like others, got the "Western fever," and "West" he went, to get us a home, and came home without one, as we had no money to buy such as he wanted. He talked "West" for three years, and then I got the "fever" too, and West I went, and came home with the "fever" all gone. We intended to buy a farm, and had only \$1,000 in cash to buy with, and wanted a good-sized one. We went in debt on a farm that had been rented for nine years—a farm of 200 acres, with no fence on it, or anything else to live like other people. I had some Langstroth hives, and my bees began to work. I told my husband that I would pay for the farm with honey! I had to work with the bees all alone, as they stung the life out of my folks. I rolled my sleeves up and went to work with a will. The first year my bees all died except 6 colonies. The next season I crowded them with boxes, had 9 new swarms, and sold \$100 worth of honey; the next year only \$60—I felt weak; but the next year I had \$350 worth, and the next, \$556 worth; and the past year I had 8,000 pounds of fine honey, and the average price per pound is 9 cents, as honey is very plentiful. I have 148 fine colonies, and can pay for another farm if I keep well. We wives can lend a helping hand in many ways if we select some business, and stick to it. We do not take many cares off our husbands, but we can try to pay for our homes. I let nature take its course with my bees. How nice it is to pay all expenses on a farm with bees, and then have all that is made on the farm, clear. I often look at my pets, and wonder how they can do so much.

Mrs. H. A. KENRICK.

Mindoro, Wis., Jan. 14, 1890.

First Year's Work with Bees.

I procured my first bees last spring, commencing with 20 colonies. My new hives contain 2,140 cubic inches each, being two stories high, and all painted white. I use the Langstroth brood-frames, which are perfection, in my mind, as the combs are so beautifully built in them, straight and even. I allowed my bees to swarm naturally; they gave me 26 new swarms, and stored 1,400 pounds of comb honey in one-pound sections. My honey is all sold at from 10 to 15 cents per pound, according to the grade, except about 400 pounds that I kept in case I should have to feed some colonies in the spring, and a few pounds for my neighbors.

Owing to my inefficiency in the business, I lost 4 colonies on account of their losing their queens; this is one place where I prize the AMERICAN BEE JOURNAL, as it has taught me how to furnish my bees with

eggs and queens, and had I known this last spring, it would have been a saving of over \$20 to me, and now the BEE JOURNAL has told me all this for one single dollar! Just think what I will save next year, at the same rate, as I have put 42 colonies into winter quarters, and I think that they have an abundance of stores! I am wintering my bees in the cellar; it is very dry and well ventilated. I take great pride in looking after my bees, and as long as they stay with me, they shall have a good home, and be well cared for. The AMERICAN BEE JOURNAL also is a welcome guest at our house, and its value can scarcely be estimated. My advice to every bee-keeper is, to take the BEE JOURNAL for one year, and he will never have to be solicited to subscribe again—he will be only too willing to do so.

I intend to enlarge my apiary to an enormous size, provided I have success in the business. It shall have my individual attention from this henceforth, and I am now searching for knowledge.

G. N. BENHAM.

Red Wing, Minn., Jan. 10, 1890.

Bees are Quiet in the Cellar.

I wintered 22 colonies in the cellar last winter, and increased them to 54 the past season; I put them into the cellar again on Dec. 1, 1889, and they are doing finely. Though we have had very warm weather so far, the bees are very quiet. I had 600 pounds of surplus honey in one-pound sections, and the hives were still very full and heavy when put into the cellar.

B. T. PIERCE.

Grand Rapids, Mich., Jan. 14, 1890.

Convention Notices.

☞ The spring meeting of the Northern Illinois Bee-Keepers' Association, will meet at the residence of D. A. Fuller, in Cherry Valley, Ill., on May 19th, 1890.

D. A. FULLER, Sec.

☞ The Ohio State Bee-Keepers' Association will be held in Cleveland, O., on Wednesday and Thursday, Feb. 19 and 20, 1890.

MISS DEBRA BENNETT, Sec. and Treas., Bedford, O.

☞ The Cortland Union Bee-Keepers' Association will hold their Annual Meeting at the W. C. T. U. Rooms in Cortland, N. Y., on Tuesday, Jan. 28, 1890, at 10 a.m. sharp.

M. H. FAIRBANKS, Sec.

☞ The Northeastern Ohio, Northwestern Pennsylvania, and Western New York Bee-Keepers' Association, will meet in joint session with the Ohio State Bee-Keepers' Association, in Cleveland, O., on Feb. 19 and 20, 1890.

GEO. SPITLER, Sec.

☞ The 21st annual meeting of the New York State Bee-Keepers' Association will be held in the Court House at Rochester, N. Y., on Feb. 5, 6, and 7, 1890. Reduced rates will be given at hotels, and on all principal railroads. The programme and full particulars will appear in due time. Each county association is requested to send two or more delegates.

G. H. KNICKERBOCKER, Sec.

☞ The twenty-third annual meeting of the Minnesota State Horticultural Society, in joint session with the Minnesota Bee-Keepers' Association, will be held in the Town Hall, at Excelsior, Minn., on Tuesday, Wednesday, Thursday and Friday, Jan. 21, 22, 23, 24, 1890. The Bee-Keepers' Association will occupy a portion of Friday morning for its second annual meeting, and will discuss questions pertaining to bee-culture, as related to horticulture. For further particulars, address Wm. Urie, Secretary of the Minnesota Bee-Keepers' Association, Minneapolis, Minn.

☞ The Wisconsin State Bee-Keepers' Association, will hold its Sixth Annual Meeting in the Capitol at Madison, Wis., on Thursday, Feb. 5, 1890. A complete programme of the Convention will be duly mailed to the prominent bee-keepers of the State. A large attendance of bee keepers is anticipated, as the Farmers' meeting takes place the same week. We hope, also, to have a Honey Fair during the meeting. Premiums have been offered for the best display, and of samples of extracted and comb honey. Send to the Secretary for a premium list. Mr. A. I. Root is expected to be present at the meeting.

DR. J. W. VANCE, Sec., Madison, Wis.

Clubs of 5 for \$4.00, to any addresses. Ten for \$7.50, if all are sent at one time.

HONEY AND BEESWAX MARKET.

DETROIT, Dec. 20.—Comb honey is dull and lower, now quoted at 12@14c. Extracted, 7@8c., with few sales. Beeswax is now in good demand, at 24@25c.

M. H. HUNT, Bell Branch, Mich.

BOSTON, Jan. 9.—Best 1 lbs., 16c; best 2 lbs., 15c. Extracted, 7@9c. Beeswax, 23c. Trade is dull.

BLAKE & RIPLEY, 57 Chatham St.

CHICAGO, Dec. 27.—White clover 1-lbs., 12@13½c.; basswood, 11@11½c.; buckwheat, 8@10c. Extracted, 6¼@7¼c. Beeswax, dark, 23@24c.; bright, 25@26c.

S. T. FISH & CO., 189 S. Water St.

CHICAGO, Jan. 8.—Sales are light, at 12@13c. for white 1-lbs.; dark, 8@10c. Extracted dull at 6@7c. for dark, 7@8c. for fancy white. Beeswax, prime, 25c.

R. A. BURNETT, 161 S. Water St.

DENVER, Dec. 28.—Comb, 1-lb. sections, 1st grade, 13@15c.; 2nd, 12@14c. Extracted, 6@7c. Beeswax, 20@25c.

J. M. CLARK COM. CO., 1421 Fifteenth St.

KANSAS CITY, Dec. 24.—Demand is light and prices lower, owing to bee-keepers offering honey at 11@12½c., delivered throughout the West. Very fancy 1-lbs., 12 in a crate, 13 cts.; good, 12½c.; dark, 10c. Two-lbs., white, 12c.; dark, 10c. Extracted, white, 7c.; dark, 5@6c.

HAMBLIN & BEARSS, 514 Walnut St.

CINCINNATI, Jan. 8.—The very mild winter apparently has a depressing effect on the honey market, more especially on comb honey. Best white is offered at 14@16c., but concessions have to be made to effect sales. There is a fair demand for extracted at 5@8c.

Beeswax is in good demand at 20@22c. for good to choice yellow. C. F. MUTH & SON, Corner Freeman & Central Aves.

MILWAUKEE, Dec. 27.—Market dull; only best grades demanded. White 1-lbs., 13@14c.; 2-lbs., 11@12c.; dark 1-lbs., 12@13c.; 2-lbs., 10@12c. Extracted, white, in barrels, 7@7½c.; in ½-barrels and kegs or tin, 7¼@8c.; dark, in barrels, 6@6½c.; in kegs, 6¼@7c. Beeswax, 22@25c.

A. V. BISHOP, 142 W. Water St.

NEW YORK, Dec. 30.—Demand for comb honey has almost ceased, and choice lots can be picked up at almost any price. Extracted is doing fairly well. Basswood and California, 7½c.; orange-bloom, 8@8½c.; buckwheat, 8c.; Southern, 7@7½c. per gallon.

HILDRETH BROS. & SEGELKEN, 28-30 Broadway, near Duane St.

KANSAS CITY, Dec. 27.—Market continues very dull. Demand very light. Weather is entirely too warm. We quote white 1-lb. comb, 13c.; fall, 1-lbs., 10@11c.; white, 2-lbs., 11@12c.; fall, 2-lbs., 10c. Extracted, white, 7@7½c.; amber, 5@6c. Beeswax, 22c.

CLEMONS, CLOON & CO., Cor. 4th and Walnut Sts.

☞ Some have requested us to print a card on a less number than 100 Honey Almanacs, and we have concluded to accommodate them. We will furnish 25 copies with card printed on the first page, **postpaid**, for \$1.10; 50 copies for \$1.70; 75 copies for \$2.30. See prices for more on the page 20.

The Report of the proceedings of the 20th annual session of the International American Bee-Association is now published. The price is 25 cts., postpaid. It contains, besides the report, the new songs and music then used, and engravings of the present officers as well as the retiring ones. In all, it contains 36 pages. It is for sale at this office.



ALFRED H. NEWMAN,
BUSINESS MANAGER.

Business Notices.

Subscribers who do not receive their papers promptly, should notify us at once.

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Send us one **NEW** subscriber, with \$1.00, and we will present you with a nice Pocket Dictionary.

Red Labels are nice for Pails which hold from 1 to 10 lbs. of honey. Price \$1.00 per hundred, with name and address printed. Sample free.

We have some full sets of the BEE JOURNAL for 1889, and new subscribers can have the full sets for 1889 and 1890 for \$1.80 until all are gone.

Calvert's No. 1 Phenol, mentioned in *Cheshire's Pamphlet* on pages 16 and 17, as a cure for foul brood, can be procured at this office at 25 cents per ounce, by express.

The date on the wrapper-label of this paper indicates the end of the month to which you have paid. If that is past, please send us a dollar to advance that date another year.

Please send us the names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you.

As there is another firm of "Newman & Son" in this city, our letters sometimes get mixed. Please write *American Bee Journal* on the corner of your envelopes to save confusion and delay.

Systematic work in the Apiary will pay. Use the Apiary Register. Its cost is trifling. Prices:

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We offer the *Monthly Philadelphia Farm Journal*, and either the *AMERICAN BEE JOURNAL* or *ILLUSTRATED HOME JOURNAL* for one year, for the small sum of \$1.20. Or, we will give it free for one year to any one who will send us one new subscriber for either of our Journals with \$1.00 (the subscription price).

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We Club the *American Bee Journal* for a year, with any of the following papers or books, at the prices quoted in the **LAST** column. The regular price of both is given in the first column. One year's subscription for the *American Bee Journal* must be sent with each order for another paper or book:

	Price of both.	Club
The <i>American Bee Journal</i>	1 00	...
and <i>Gleanings in Bee-Culture</i>	2 00	1 75
<i>Bee-Keepers' Guide</i>	1 50	1 40
<i>Bee-Keepers' Review</i>	1 50	1 40
<i>The Apiculturist</i>	1 75	1 65
<i>Bee-Keepers' Advance</i>	1 50	1 40
<i>Canadian Bee Journal</i>	2 00	1 80
<i>Canadian Honey Producer</i>	1 40	1 30
The 3 above-named papers	5 65	5 00
and <i>Langstroth Revised (Dadant)</i>	3 00	2 75
<i>Cook's Manual (1887 edition)</i>	2 25	2 00
<i>Doolittle on Queen-Rearing</i>	2 00	1 75
<i>Bees and Honey (Newman)</i>	2 00	1 75
<i>Binder for Am. Bee Journal</i>	1 80	1 50
<i>Dzierzon's Bee-Book (cloth)</i>	3 00	2 00
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<i>Western World Guide</i>	1 50	1 30
<i>Heddon's book, "Success"</i>	1 50	1 40
<i>A Year Among the Bees</i>	1 75	1 50
<i>Convention Hand-Book</i>	1 50	1 30
<i>Weekly Inter-Ocean</i>	2 00	1 75
<i>Toronto Globe (weekly)</i>	2 00	1 70
<i>History of National Society</i>	1 50	1 25
<i>American Poultry Journal</i>	2 25	1 50

Do not send to us for sample copies of any other papers. Send for such to the publishers of the papers you want.

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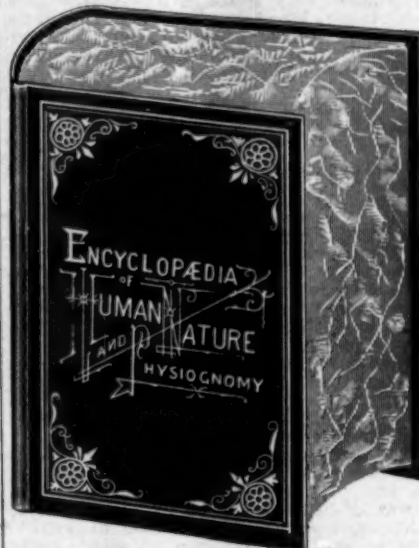
N. B.—This treatment is not a snuff or an ointment; both have been discarded by reputable physicians as injurious. A pamphlet explaining this new treatment is sent free on receipt of stamp to pay postage, by A. H. Dixon & Son, 337 and 339 West King Street, Toronto, Canada.—*Christian Advocate*.

Sufferers from Catarrhal troubles should carefully read the above.
50E26t 1mly.

Our Clubbing List.—We have now made arrangements with publishers of metropolitan Weekly Newspapers, by which we can club them at the very low prices quoted in the **LAST** column, without premiums. The regular price of both is given in the first column. One year's subscription for this JOURNAL must be sent with each order for another paper:

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Chicago Inter-Ocean	\$2.00	\$1.75
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\$5.00 Encyclopedia.—The work is almost as large as Webster's Dictionary, 4 inches thick, weighs over 5 pounds, and occupies over 300 cubic inches of space. It is handsomely bound in English cloth, double spring back, gilt side and back stamp, marble edges, beveled boards, and contains over 100 illustrations. It is pub-



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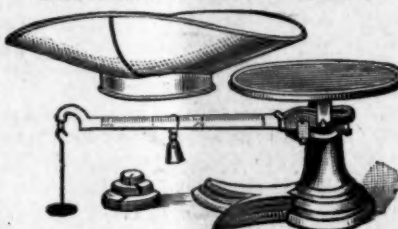
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